

## **REMARKS**

### **I. Introduction**

In response to the pending Office Action, Applicants have amended claims 1, 3 and 5 in order to further clarify the present invention. In addition, new claim 6 was added. Support for the amendments to claims 1, 3 and 5 and new claim 6 may be found, for example, in Table 1 on page 14 of the specification. No new matter has been added.

Applicants appreciate the Examiner's discussion of the pending Office Action during a telephone conversation on January 11, 2008, during which the § 103 rejections of claims 1-3 and 5 and the inherency argument as applied to Motoaki were discussed.

For the reasons set forth below, Applicants respectfully submit that all pending claims as currently amended are patentable over the cited prior art.

### **II. The Rejection of Claim 3 Under 35 U.S.C. § 112**

Claim 3 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. It is alleged that the degree to which the potential is heightened is indefinite. In response, Applicants direct the Examiner to Table 1 on page 14 to show the degree to which the potential may be heightened. As is clear from the data in Table 1, the specification demonstrates that the batteries A-E and G each exhibit heightened potential as compared to battery F, whose potential is 254 mV. As such, the potential of batteries A-E and G is heightened up to at least the lower limit recited in amended claim 1 (272 mV).

**III. The Rejection of Claims 1-3 And 5 Under 35 U.S.C. 103**

Claims 1-3 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shigeto et al. (JP 2001-15106) as evidenced by Motoaki et al. (JP 07-183032). Applicants respectfully submit that Shigeto fails to render the pending claims obvious for at least the following reasons.

With regard to the present invention, amended claims 1 and 5 recite, in-part, an alkaline battery comprising: a positive electrode mixture comprising manganese dioxide and nickel oxyhydroxide as active materials; a negative electrode comprising zinc as an active material; and an alkaline electrolyte, characterized in that the potential of said manganese dioxide relative to a mercury/mercury oxide electrode in a potassium hydroxide aqueous solution having a KOH concentration of 40 wt% is 272 mV or higher.

It is admitted that Shigeto fails to disclose a battery having a potential of said manganese dioxide relative to a mercury/mercury oxide electrode in a potassium hydroxide aqueous solution having a KOH concentration of 40 wt% is greater than 272 mV. However, the Examiner alleges that Motoaki provides evidentiary support that the battery of Shigeto must have a potential of 270 mV. As such, by the Examiner's own admission, Shigeto fails to disclose a battery having the potential characteristics recited in amended claims 1 and 5.

In the Office Action, the Examiner alleged that 270 mV would be "close enough" to "greater than 270 mV" as recited in claim 1 in its previous incarnation, because the ranges are close enough that one skilled in the art would have expected them to have the same properties. Accordingly, as claims 1 and 5 have been amended to recited the range "272 mV or higher",

Applicants submit that the claimed range is sufficiently different from the “inherent property” of Shigeto to be patentably distinct.

Applicants would point out that Motoaki discloses that the range of the surface potential of electrolytic manganese dioxide in 40% KOH is from 240-270 mV. This range and the corresponding reference is also disclosed in the specification of the present application on page 2, lines 12-20. As Applicants refer to Motoaki and differentiate the range of the present claims over the range cited in Motoaki, Applicants respectfully submit that one skilled in the art finds this difference in potential to be sufficiently far enough apart to exhibit different properties. Clearly, this is shown in Table 1, where battery F, which has lower potential of manganese dioxide, exhibits inferior discharge duration characteristics

In addition, the specification teaches that electrolytic manganese dioxide having such a potential (i.e., 240-270mV), is generally used in conventional alkaline batteries having no nickel oxyhydroxide. The present invention discloses a battery that has nickel oxyhydroxide. As such, Motoaki discusses a battery having a completely different composition than that of the present invention. Nonetheless, claim 1 has been further amended so that Motoaki does not overlap the potential of said manganese dioxide relative to a mercury/mercury oxide electrode in a potassium hydroxide aqueous solution having a KOH concentration of 40 wt%. As such, Applicants submit that Shigeto fails to render claims 1 and 5 obvious, even considering the evidentiary support provided by Motoaki.

Moreover, the Examiner alleges that the battery of Shigeto must have a range from 240-270 mV, as evidenced by the inherency of the value shown in Motoaki. Accordingly, by the

Examiner's own admission, the present invention, which claims a battery outside the range cited in Motoaki, is not disclosed by Shigeto.

Therefore, as is well known, in order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. As Shigeto, at a minimum, fails to teach or suggest an alkaline battery comprising: a positive electrode mixture comprising manganese dioxide and nickel oxyhydroxide as active materials; a negative electrode comprising zinc as an active material; and an alkaline electrolyte, characterized in that the potential of said manganese dioxide relative to a mercury/mercury oxide electrode in a potassium hydroxide aqueous solution having a KOH concentration of 40 wt% is greater than 272 mV, it is submitted that Shigeto does not render amended claims 1 and 5, or any pending claims dependent thereon, obvious.

**IV. All Dependent Claims Are Allowable Because The  
Independent Claim From Which They Depend Is Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1 and 5 are patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

Furthermore, as new claim 6 recites a potential of manganese dioxide of 281 mV or higher, which is even further outside the "inherent" range cited in Motoaki, Applicants submit that claim 6 is allowable over the cited prior art as well.

V. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication of which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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